

Surface Water Management Capital Improvement Program Project Descriptions
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Hermes & Mayfair Regional Pond Rehabilitation

Project Description:	Preliminary design study to determine the options and costs of rehabilitating the Mayfair and Hermes Regional Stormwater Ponds. The study will also examine the feasibility of jointly using these stormwater facilities as neighborhood parks, habitat, and environmental education opportunities.	
Project Origin/Background:	Since the earliest development in the Burien/White Center area, King County diverted drainage flows to the Mayfair/Hermes Depression. As the bottom of the depression was sealed by debris and erosion from development, pumps were installed to divert stormwater to Miller Creek, thereby reducing flooding. The "Draft" Stormwater Master Plan (1996) noted that the potential for flooding is still a problem. The proposed study would determine what maintenance and new construction is required to eliminate potential flooding.	
Total Project Cost:	\$ 56,334	
Basis of Cost Estimate:	Estimate based on actual cost of study.	
Variables/Risks in Cost Estimate:		
Estimated Maintenance and Operating Costs:	Maintenance will continue at current levels until rehabilitation occurs.	
Estimated schedule:	<u>Start</u>	<u>Finish</u>
Planning:		
Pre-design:	2nd Quarter 2002	3rd Quarter 2002
Design:		
Construction:		
Status as of May 1, 2005:	A study was completed in 2002. Implementation of study recommendations will be included in a future year CIP. Future cost estimates and scope will be determined following the adoption of the Storm Drainage Master Plan and Miller Creek Plan in 4th quarter 2005.	

Hermes & Mayfair Regional Pond Rehabilitation

Account Number 319-11-596-06

Work Order Number : 319-0005

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning Phase	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase	56,334	56,334								
Design Phase										
Acquisition										
Construction Phase										
TOTAL	\$ 56,334	\$ 56,334	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 45,984	\$ 45,984	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Parks & General Government CIP	10,350	10,350								
TOTAL	\$ 56,334	\$ 56,334	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

PRIOR YEAR CIP (Expenditures)										
2005-2010 CIP TOTAL	\$ 53,575	\$ 53,575	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change from prior year CIP: No change.

BUDGET AUTHORITY										
Adopted as part of annual budget		\$ 46,575								
Prior Year Plus Current		\$ 46,575								
Budget Amendment		\$ 7,000								
Amended Budget Authority		\$ 53,575								

Ambaum Sub-Basin (M-11) Drainage Improvements

Project Description:	Final design and construction of the Ambaum Regional Pond expansion, from 2.5 acre-feet to 10 acre-feet of storage and water quality facilities; extension of a new 30" to 42" storm line in SW 150th Street, between 1st Ave S. and 4th Ave SW; and a new 24" storm line through Burien Plaza, from SW 146th Street to 1st Ave S, just north of SW 148th St.	
Project Origin/Background:	Construction of the stormwater conveyance system in downtown Burien (Sub-Basin M-11) was constructed piece-meal prior to establishment of standards. As a result, localized flooding in the downtown area occurs during peak storm events. In 1991, King County constructed the Ambaum Regional Pond, providing approximately 2.5 acre-feet of detention storage. Drainage study was prepared in October 2004 by KPG, Inc. This study identified need to do these improvements to alleviate flooding within the area during 25 year storm events.	
Total Project Cost:	\$ 2,178,750	
Basis of Cost Estimate:	Engineer's cost estimate based on a 25% design level.	
Variables/Risks in Cost Estimate:	Interlocal Agreements are expected to occur with the Miller Creek partners so that they reimburse the City for 47% of the Ambaum Regional Pond costs of \$1,264,000. The amount to be reimbursed by the partners is estimated at \$594,000.	
Estimated Maintenance and Operating Costs:	\$10,000 annually	
Estimated schedule:	Start	Finish
Study	1st Quarter 2004	4th Quarter 2004
Pre-design:	3rd Quarter 2004	2nd Quarter 2005
ROW	3rd Quarter 2004	3rd Quarter 2005
Design	3rd Quarter 2005	2nd Quarter 2006
Construction	3rd Quarter 2005	4th Quarter 2006
Status as of May 1, 2005:	A drainage study was completed in October 2004. The contract for the Ambaum Regional Pond Pre-Design was approved in December 2004 and property acquisition was initiated in November 2004.	

Ambaum Sub-Basin (M-11) Drainage Improvements

Account Number 319-11-596-09

Work Order Number: 319-0008

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning	\$ 74,500	57,888	\$ 16,612	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase	39,600		39,600							
Design Phase	154,355	22,805		131,550						
Acquisition	350,000		350,000							
Construction Phase	1,560,295				1,560,295					
TOTAL	\$ 2,178,750	\$ 80,693	\$ 406,212	\$ 131,550	\$ 1,560,295	\$ -	\$ -	\$ -	\$ -	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 557,250	\$ 22,805	\$ 389,600	\$ 131,550	\$ 13,295	\$ -	\$ -	\$ -	\$ -	\$ -
Surface Water Management Fund	\$ 74,500	57,888	\$ 16,612							
Public Works Trust Fund Loan*	\$ 1,547,000				\$ 1,547,000					
	\$ -									
TOTAL	\$ 2,178,750	\$ 80,693	\$ 406,212	\$ 131,550	\$ 1,560,295	\$ -	\$ -	\$ -	\$ -	\$ -

* Note: Interlocal Agreements are expected to occur with the Miller Creek Partners so that they pay the City for 47% of the cost of the Ambaum Regional Pond, which is \$1,263,661 (not incl. predesign costs of \$39,600). The amount to be reimbursed is estimated at \$593,920.

PRIOR YEAR CIP (Expenditures)										
2005-2010 CIP TOTAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change from prior year CIP: New Project.

BUDGET AUTHORITY										
Adopted as part of annual budget		\$ -	\$ -	\$ 131,550	\$ 1,560,295					
Prior Year Plus Current		\$ -	\$ 74,500	\$ 618,455	\$ 2,178,750					
Budget Amendment		\$ 74,500	\$ 412,405	\$ -	\$ -					
Amended Budget Authority		\$ 74,500	\$ 486,905	\$ 618,455	\$ 2,178,750					

417 SW 142nd Street Infiltration Pond Expansion

Project Description:	Design and expand the infiltration pond at 417 SW 142nd Street.	
Project Origin/Background:	In 2001, two infiltration ponds were constructed on SW 142nd Street between 4th and 6th Ave SW. In 2002, the City purchased property adjacent to the pond located at 417 SW 142nd St. for the purpose of expanding the pond as recommended in the SW 142nd St/6th Ave SW area flooding reduction, phase 1 design report prepared by CH2mHill in July 1999.	
Total Project Cost:	\$ 118,000 This amount does not include actual property acquisition costs incurred in 2002.	
Basis of Cost Estimate:	Planning level cost estimate based on the cost to construct similar infiltration ponds.	
Variables/Risks in Cost Estimate:	A 25% contingency factor was used in developing the cost estimate.	
Estimated Maintenance and Operating Costs:	Unknown at present.	
Estimated schedule:	Start	Finish
Planning:		
Pre-design:		
Design:	2nd quarter 2005	4th quarter 2005
Construction:	2nd quarter 2006	4th quarter 2006
Status as of May 1, 2005:	Property was acquired in June 2002 for \$71,345 and was charged to the SWM Operating Budget. Survey and preliminary design initiated in April 2005.	

417 SW 142nd Street Infiltration Pond Expansion

Account Number 319-11-596-08

Work Order Number: 319-0006

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase	-									
Design Phase	23,000		23,000							
Acquisition	-									
Construction Phase	95,000			95,000						
TOTAL	\$ 118,000	\$ -	\$ 23,000	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 118,000	\$ -	\$ 23,000	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 118,000	\$ -	\$ 23,000	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

PRIOR YEAR CIP (Expenditures)										
2005-2010 CIP TOTAL	\$ 118,000	\$ -	\$ 23,000	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change from prior year CIP: No change.

BUDGET AUTHORITY										
Adopted as part of annual budget			\$ 118,000	\$ -						
Prior Year Plus Current			\$ 118,000	\$ 118,000						
Budget Amendment										
Amended Budget Authority			\$ 118,000	\$ 118,000						

643 SW 141st Street Infiltration Pond

Project Description: Flooding occurs in the 142nd Street Depression area in times of heavy rain. To help remedy the problem, two property/homes in the flooding area have been purchased by the City and were demolished. The properties are located at 643 and 651 SW 141st Street. Pre-design will begin to help construct a stormwater infiltration pond at this location.

Project Origin/Background: The SW 142nd St/6th Ave SW area flooding reduction, phase 1 design report prepared by CH2m Hill in July 1999 recommended excavation of City owned property at 651 SW 141st St and two parcels on SW 142nd Steet, between 4th and 6th Ave SW. In 2003, the City purchased the properties at 643 and 651 SW 141st St. for the purpose of constructing a stormwater infiltration pond.

Total Project Cost: \$ 445,000 (for property acquisition, demolition, and pre-design)

Basis of Cost Estimate: Acquisition costs are based on actuals. The demolition costs are actual. Not included are the design and construction cost of constructing the infiltration pond on SW 141st Street. These costs will be estimated in the pre-design phase of the project.

Variables/Risks in Cost Estimate:

Estimated Maintenance and Operating Costs: Unknown at present.

Estimated schedule:	Start	Finish
Planning:	3rd Quarter 2003	4th Quarter 2003
Pre-design:	1st Quarter 2005	3rd Quarter 2005
Design:	4th Quarter 2005	2nd Quarter 2006
Construction:	3rd Quarter 2006	4th Quarter 2006

Status as of May 1, 2005: The City Council approved purchasing the two properties at the July 21, 2003 Council meeting. Demolition was completed in 4th quarter 2003. Pre-design was initiated in 1st quarter 2005. Survey contract approved in April 2005. Environmental site assessment and infiltration evaluation initiated in February 2005. Design cost to be determined following pre-design.

643 SW 141st Street Infiltration Pond

Account Number 319-11-596-07

Work Order Number : 319-0007

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase	50,000		50,000							
Design Phase	-									
Acquisition	328,120	328,120								
Construction Phase	66,880	26,425	40,455							
TOTAL	\$ 445,000	\$ 354,545	\$ 90,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 445,000	\$ 354,545	\$ 90,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 445,000	\$ 354,545	\$ 90,455	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

PRIOR YEAR CIP (Expenditures)										
2005-2010 CIP TOTAL	\$ 445,000	\$ 395,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change from prior year CIP: No change. Project name was originally the 142nd Street Depression - Phase 2.

BUDGET AUTHORITY										
Adopted as part of annual budget		\$ 50,000	\$ -							
Prior Year Plus Current		\$ 50,000	\$ 445,000							
Budget Amendment		\$ 395,000	\$ -							
Amended Budget Authority		\$ 445,000	\$ 445,000							

Miller/Salmon Creek Basin Plan

Project Description:	The development of the Miller and Salmon Creek Basin Plan is a cooperative inter-jurisdictional effort to study and resolve existing drainage, flooding, erosion and sedimentation, and water quality problems in the basin. The parties include the cities of Normandy Park, SeaTac and Burien, the Port of Seattle, King County, and the Washington State Department of Transportation. Burien's 50% share of the total study cost is estimated at \$202,243.	
Project Origin/Background:	The project originated due to multi-jurisdictional desires to better plan and coordinate actions impacting the basin and sub-basins to improve habitat and water quality, and reduce erosion and sedimentation in the Miller and Salmon Creek Basins.	
Total Project Cost:	\$ 250,000	
Basis of Cost Estimate:	Costs were established in the Miller/Salmon Creek Basin Plan Interlocal Agreement adopted by Council on May 15, 2000.	
Variables/Risks in Cost Estimate:	The Interlocal Agreement was adopted by all parties. Included in the budget are funds for a second opinion review by additional consultants.	
Estimated Maintenance and Operating Costs:	Unknown at present.	
Estimated schedule:	Start	Finish
Planning:	4th Quarter 2002	4th Quarter 2005
Pre-design:		
Design:		
Construction:		
Status as of May 1, 2005:	Preparation of the draft Miller/Walker Creek Basin Plan completed in May 2005. Public review and adoption anticipated in 3rd quarter 2005. Preliminary draft of Salmon Creek Plan completed in 4th quarter 2004. Final draft to be completed by 3rd quarter 2005 with public review and adoption in 4th quarter 2005.	

Miller/Salmon Creek Basin Plan

Account Number 319-11-596-04

Work Order Number: 319-0002

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning	\$ 250,000	175,250	\$ 74,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase	-									
Design Phase	-									
Acquisition	-									
Construction Phase	-									
TOTAL	\$ 250,000	\$ 175,250	\$ 74,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 250,000	\$ 175,250	\$ 74,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 250,000	\$ 175,250	\$ 74,750	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

PRIOR YEAR CIP (Expenditures)										
2005-2010 CIP TOTAL	\$ 250,000	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change from prior year CIP: No change.

BUDGET AUTHORITY										
Adopted as part of annual budget		\$ 250,000	\$ -							
Prior Year Plus Current		\$ 250,000	\$ 250,000							
Budget Amendment		\$ -	\$ -							
Amended Budget Authority		\$ 250,000	\$ 250,000							

Residential Drainage Improvement Program

Project Description:	Numerous gaps exist in Burien's drainage and surface water management facilities, resulting in problems that impact homes adjacent to residential streets. Also, existing surface water management facilities require rehabilitation to ensure functional operation. The RDIP program allocates \$200,000 annually to address documented and emergent drainage problems. Projects will be reviewed and prioritized annually based on their potential impact and cost.	
Project Origin/Background:	To address the many documented City storm water deficiencies, the Residential Drainage Improvement Program (RDIP) was developed and initiated in 1997. First projects were completed in 1999.	
Total Project Cost:	\$ 1,551,659 for the six year period 2006-2011.	
Basis of Cost Estimate:	Estimate of basic costs of 2-4 relatively small to medium sized storm water repairs or upgrades each year. The number of projects varies depending on priority of projects and costs. Costs are based on \$200,000 annually, inflated from 2001.	
Variables/Risks in Cost Estimate:	Need for easements, construction utility conflicts, site conditions differing from that anticipated during design; competition for contracts among contractors, contractor experience and expertise.	
Estimated Maintenance and Operating Costs:	Dependent on the complexity and size of the repair /upgrade.	
Estimated schedule:	<u>Start</u>	<u>Finish</u>
Planning:		
Pre-design:		
Design:	1st Quarter	2nd Quarter
Construction:	3rd Quarter	4th Quarter
Status as of May 1, 2005:	Emergent repairs are funded as needed.	

Residential Drainage Improvement Program

Account Number 319-11-596-03

Work Order Number : 319-0004

TIMING OF EXPENDITURES	Total	Expenses Prior to Dec 31, 2004	2005	2006	2007	2008	2009	2010	2011	Future
Project Development/Planning	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-design Phase										
Design Phase	359,271	120,000	53,072	28,512	29,496	30,528	31,597	32,545	33,521	
Acquisition	-									
Construction Phase	2,335,388	613,757	356,171	209,088	216,304	223,875	231,710	238,662	245,821	
TOTAL	\$ 2,694,659	\$ 733,757	\$ 409,243	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	\$ -

TIMING OF REVENUES										
Surface Water Management CIP	\$ 2,694,659	\$ 733,757	\$ 409,243	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	\$ -
TOTAL	\$ 2,694,659	\$ 733,757	\$ 409,243	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	-

PRIOR YEAR CIP										
2005-2010 CIP TOTAL	\$ 2,644,916	\$ 1,143,000	\$ 229,600	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ -	\$ -

Change from prior year CIP: No change.

BUDGET AUTHORITY										
Adopted as part of annual budget		\$ 1,143,000	\$ 221,800	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	
Unspent Prior Year Plus Current		\$ -	\$ 631,043	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	
Budget Amendment		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Amended Budget Authority		\$ 1,143,000	\$ 631,043	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	
Expenditures		\$ 733,757	\$ 631,043	\$ 237,600	\$ 245,800	\$ 254,403	\$ 263,307	\$ 271,206	\$ 279,343	
Unspent Budget Authority		\$ 409,243	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

Surface Water Management Unfunded Projects

The following projects were identified in the May 2005 Storm Drainage Master Plan. Projects included in the Master Plan and also identified in the Miller/Salmon Creek Basin Plans are denoted with an asterisk.

<u>New Storm Drainage System at 1st Avenue South & SW 132nd Street (A)</u>.....	\$276,000
New storm drainage system will reduce existing flooding problem at closed depression. Provide new 36-inch diameter pipe and catch basins to route storm water runoff around existing residences. Acquire a storm drainage easement for the portion of the new storm drainage system that is to be located on private property. Periodic maintenance reduces problem significantly. Anticipate completion of a permanent solution as part of future development.	
<u>New Storm Drainage System at 1st Avenue South & SW 132nd Street (B)</u>.....	\$670,000
New storm drainage system will reduce existing flooding problem at closed depression. Provide new 36-inch diameter pipe and catch basins to route storm water runoff around existing residences. Provide stormwater wetland in the undeveloped parcels located south of the problem area. Acquire a storm drainage easement for the portion of the new storm drainage system that is to be located on private property. Periodic maintenance reduces problem significantly. Anticipate completion of a permanent solution as part of future development.	
<u>Acquisitions of Local Depressions at 4th Avenue South at South 132nd Street</u>	\$70,000
Purchase properties and provide maintenance for these depressions. The existing depressions provide pre-settling for stormwater runoff before it is routed to the Chelsea Infiltration Pond. Purchasing the properties will ensure that it will not be developed in the future, and it will allow City staff access to maintain storm drainage inlets and outlets, and vegetation in the depressions.	
<u>SW 132nd Street Flooding (Between Ambaum Blvd SW and 8th Ave. SW)</u>.....	\$25,000
Acquire storm drainage easements to gain maintenance access to the undeveloped property north of the problem area. Perform base mapping of the existing drainage system/flow paths in the area and investigate the need to increase the hydraulic capacity of the downstream conveyance system. Maintenance of the existing drainage system will increase the hydraulic capacity which should reduce localized flooding. (Note: Anticipate completion with future development of parcel(s) in the vicinity.)	

* <u>Hermes Depression</u>	\$1,885,000
Excavate area to the east of the existing depression to provide additional storage volume and infiltration capacity. Construct stormwater wetlands and a bioswale upstream of the new infiltration area. Provide interpretive signs, trails, and other park amenities. Upgrade pump station as recommended in the December 2, 2002 Hermes Improvements Concepts Report by CH2M HILL. The additional storage and infiltration capacity in the depression will reduce localized flooding. Stormwater wetlands will provide additional WQ treatment. Park amenities will create a recreational and educational facility for public use. Pump system improvements will reduce O&M costs. <i>Note: A second pump improvement option has been proposed as part of the Miller Creek Basin Plan Project.</i>	
<u>Mayfair Depression</u>	\$1,003,000
Purchase property and excavate existing depression to the south of the Mayfair Regional Detention Pond. This will create more storage volume and reduce localized flooding. Provide interpretive signs, trails and other park amenities. Park amenities will create a recreational and educational facility for public use.	
<u>South 140th Street Horse Pasture</u>	\$384,000
Replace existing 12-inch diameter pipe and catch basins with 36-inch diameter pipe and catch basins. Acquire easement for new storm drain system. Additional hydraulic capacity of new storm drainage system will reduce future flooding. (Note: Could be completed as part of future parcel development.)	
<u>South 132nd Street Depression</u>	\$518,000
Replace existing pipe north of the existing depression. Provide a detention tank within the storm drain easement. Acquire easement and provide new 24-inch diameter pipe and catch basins to route detention tank outflow to the Miller Creek Outfall between S. 134th Street and S. 136th Street. New pipe will route water away from the problem area. Detention tank will provide some of the storm drainage volume storage that will be lost when routing it away from the local depression	
<u>14th Avenue South</u>	\$582,000
Replace existing pipe and catch basins. Acquire storm drain easement over new storm drainage system. Provide underground detention system. Additional hydraulic capacity of the new storm drain line will eliminate localized flooding. The detention tank will mitigate the increase in peak flows that could result from the construction of the new storm drain system at the problem area.	
<u>SW 155th Street Storm Drain System Improvements</u>	\$61,000
Provide a new catch basin upstream of the problem area. A new catch basin, installed in the flow path of the street runoff, will intercept storm runoff and reduce flooding at the bottom of the hill. (Note: A new catch basin was installed at the intersection using SWM maintenance funding. Flooding occurrences will be monitored.)	

<u>*A57 Low Impact Development North of Tributary 0353.....</u>	TBD
Provide Low Impact Development features in residential areas upstream of the ravine. Implementation of Low Impact Development concepts will detain and treat runoff. This will help reduce erosion and water quality problems in the ravine. (Note: Grant funding preferred for a demonstration project.)	
<u>15th Avenue SW Drainage System.....</u>	\$258,000
Abandon existing concrete open channel. Provide new 18-inch diameter pipe and catch basins. Acquire easement for new storm drainage system. Additional hydraulic capacity of the new storm drainage system will eliminate localized flooding. (Note: Anticipate completing with other drainage upgrades in the vicinity (SW 165th Street)	
<u>SW 165th Street Drainage System.....</u>	\$290,000
Provide road side ditch and driveway culverts along SW 165th Street. Provide bioswales at the downstream end of the new storm drainage system. Drainage system will reduce ROW flooding. Bioswales will provide WQ treatment for road runoff. (Note: Anticipate completion with 15th Ave SW drainage system.)	
<u>*Chelsea Pond Pump Adjustment.....</u>	\$0
Adjust existing pump system at the Chelsea infiltration pond in order to increase the amount of stormwater that is stored and/or infiltrated. Increasing the amount of stormwater that can be stored and infiltrated in the Chelsea infiltration pond will decrease the peak flows that are routed downstream to Miller Creek.	
<u>*Seattle City Light Property Regional WQ Facility.....</u>	\$600,000
Construct regional water quality facility. WQ facility will improve the water quality of runoff that is routed to Miller Creek. (Basin Plan estimated cost is \$1.2 million, with City share estimated at 50%.)	
<u>*SW 136th Street Low Impact Development.....</u>	TBD
Construct Low Impact Development features in residential area. Low Impact Development features will help recharge groundwater and reduce the peak flows that are routed to Miller Creek.	
<u>SW 136th Street Wetland Enhancement.....</u>	\$244,000
Purchase property and clear noxious weeds in the existing wetland. Provide interpretive signs on the property. This wetland detains and treats runoff that is routed to Miller Creek. Purchasing the property will prevent development of the area around the existing wetland, and it will provide City staff access to maintain the wetland vegetation and storm drainage inlet and outlet. It also provides possible wetland mitigation for improvements on other projects in the sub-basin. Educational signage will enhance the educational value of the property.	

<u>*South 144th Street Side Channel</u>	Hold
Expand flood plain and excavate side channel for Miller Creek north of S. 144th Street. Improve stream habitat in Miller Creek north of S. 144th Street. Improve wetland vegetation in the wetland south of S. 144th Street. Flood plain and side channel will provide additional storage volume to help reduce localized flooding. Side channel excavation and stream habitat improvements will provide rearing habitat for juvenile salmonids. Wetland vegetation will enhance wildlife habitat. It also provides possible wetland mitigation for this project and other projects in this sub-basin. (Note: 1.3 acre Mah property purchased in April 2005 for this project.)	
<u>*Sub-basin M-12 Detention/WQ Facility</u>	\$2,208,000
Construct water quality and detention structure at Sylvester Middle School playfield (located in sub-basin M-15). The detention/WQ facility will treat and detain runoff from the sub-basin before it is routed to Tributary 0354.	
<u>21st Avenue SW Storm Drainage System</u>	\$185,000
Provide new 24-inch diameter outlet pipe and catch basin. Abandon existing pipe and catch basins. Perform base mapping to confirm condition and location of the downstream storm drainage system from S. 152nd Street to Lake Burien. New drainage system will reduce flooding by routing water to the existing drainage ditch in 20th Avenue SW.	
<u>Century Apartments Drainage System</u>	\$205,000
Replace damaged 18-inch diameter pipe and existing catch basins. The new storm drainage system will reduce ROW and private property flooding. Replacing the damaged storm drain line may prevent sinkholes from forming in the existing roadside ditch.	
<u>Drainage System at SW 129th Street</u>	\$111,000
Replace existing concrete open channel with 24-inch diameter drain line. Replace existing catch basin. New storm drain line and catch basin will reduce safety and flooding problems associated with the existing concrete open channel.	
<u>South 192nd Street Detention</u>	None
The depression acts as a storm drainage pond for the residential development at 6th Place South. Acquire a storm drainage easement at the existing depression, which will provide City staff access to maintain the storm drainage inlet and outlet, and vegetation in the depression.	
<u>30th Avenue SW Outfall Repair</u>	\$200,000
Replace existing 18-inch diameter discharge pipe using relining techniques and provide new outfall structure. New discharge pipe will reduce risk of hillside erosion and slope movement. New outlet structure reduces beach erosion.	

<u>25th Avenue SW Drainage System</u>	\$662,000
Provide new 18- to 24-inch diameter pipe along 25th Avenue SW and connect to the existing storm drainage system located at Maplewild Avenue SW. Acquire storm drainage easement for the portion of the new storm drainage system that is located on private property. Provide WQ treatment manhole (e.g., Stormceptor) at the downstream end of the new storm drainage system. New storm drainage system reduces property flooding on the west side of 25th Ave SW. WQ treatment manhole will remove oil and sediment from street runoff.	
<u>Maplewild Avenue SW Drainage System Outlet at SW 156th Street</u>	\$255,000
Replace existing catch basin, reline existing discharge pipe, and provide new outfall structure. New discharge pipe reduces risk of hillside erosion. New outlet structure reduces beach erosion.	
<u>SW 174th Street Storm Drainage System Outlet at 21st Avenue SW</u>	\$692,000
Abandon existing pipe. Provide new 24-inch diameter pipe (Jack & Bore Construction) and outlet structure to the southeast along existing storm drainage easement. Cost estimate assumes horizontal drilling techniques for pipe construction. Provide WQ treatment manhole (e.g., Stormceptor) in the ROW. Will reduce risk of erosion to hillside and damage to parking garage and private residence.	
<u>SW 172nd Street Outlet</u>	\$29,000
Provide concrete headwalls with stainless steel debris barriers at 3-outlet pipe. Debris barriers will prevent pipe outlets from being entirely blocked with debris.	
<u>*Overflow Replacement at Salmon Creek Bypass</u>	\$51,000
Replace overflow pipe from flow splitter at the bypass line to the outfall into Salmon Creek. The new bypass pipe will reduce safety, erosion, and maintenance problems associated with the deteriorating pipe.	
 UNFUNDED PROJECTS TOTAL	 <u><u>\$11,464,000</u></u>